

November 13, 2001

VIA EMAIL AND FIRST-CLASS MAIL

Ms. Gloria Blue  
Executive Secretary  
Trade Policy Staff Committee  
Office of the U.S. Trade Representative  
600 17th Street, NW  
Washington, D.C. 20508

**PUBLIC VERSION**

Business Proprietary Information has been deleted from pages 1, 3, 4, and 6-14, and from Exhibits 1-9 and 11 of this letter

Re: Steel Industry Section 201 Investigation—Request for Exclusion of Certain Mold and Die Steel from Remedy Under Section 203 of 1974 Trade Act

Dear Ms. Blue:

Our firm represents International Mold Steel (“IMS”), Inc., a distributor of certain high-quality mold and die steels that are not manufactured in the United States. Pursuant to the notice of the Office of the United States Trade Representative’s Trade Policy Staff Committee (“TPSC”), published in the Federal Register (66 Fed. Reg. 54,321 (Oct. 26, 2001)), we hereby request exclusion of certain unique types of mold and die steel from the scope of any relief the President orders for the domestic steel industry under Section 203 of the Trade Act of 1974. Each of these products, with the following commercial names—NAK 55, NAK 80, PX5, Porcerax II, DH2F, CX1, DC53, DH31-S, and NAK HH—are not produced in the United States. They are currently subject to the Steel Industry Section 201 investigation as a member of product categories 1 (“carbon and alloy steel slabs, plate (including cut-to-length plate and clad plate), hot-rolled sheet and strip (including plate in coils), cold-rolled sheet and strip (other than grain-oriented silicon electrical steel), and corrosion-resistant and other coated sheet and strip”); 2 (“carbon and alloy hot-rolled bar and light shapes”); 7 (“stainless steel bare and light shapes”); and 10 (“tool steel, all forms”) listed in the TPSC’s notice. Because these mold and die steels, or any substitute product, cannot be produced domestically, they cannot be causing “serious injury” to the U.S. steel industry. An exclusion of them is therefore warranted.

**Request for confidential treatment**

Pursuant to the TPSC’s Federal Register notice and Section 2003.6 of the TPSC’s regulations, we hereby request confidential treatment for certain information contained in brackets (“[ ]”) in this filing. This information is the confidential business proprietary information (“BPI”) of IMS, and is not available in any publicly accessible form. Disclosure of the BPI could cause substantial harm to IMS’s business operations and competitive position in the market.

The following is a narrative summary of the BPI that IMS requests to be kept confidential, and the pages/exhibits in this filing on which the BPI is found:

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- ❑ Pages 1, 3, 4, and 6-14: Quantity and value of IMS's sales of each mold/die steel specification for which exclusion is sought for 1996 through 2000, and projections of such sales volumes and quantities for 2001 through 2005. Unit sales value of certain of IMS's mold and die steels.
- ❑ Exhibits 1-9: Description of each mold/die steel according to chemical, mechanical, and physical characteristics.
- ❑ Exhibit 11: Average unit sales values for the mold/die steels for which exclusion is sought.

For the foregoing reasons, IMS requests that the nine mold and die steels described in this letter be excluded from the scope of any relief the President orders for the domestic steel industry under Section 203 of the Trade Act of 1974. Please contact the undersigned if there are any questions or if we may provide more information.

Respectfully submitted



Matthew J. Clark  
Steven F. Hill

Counsel for International Mold Steel, Inc.

***OFFICE OF THE UNITED STATES TRADE REPRESENTATIVE  
TRADE POLICY STAFF COMMITTEE***

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deleted from pages 1, 3, 4, and 6-14, and from  
Exhibits 1-9 and 11

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**REQUEST OF INTERNATIONAL MOLD STEEL, INC., TO EXCLUDE PRODUCTS  
FROM IMPORT RELIEF UNDER SECTION 203 OF THE TRADE ACT OF 1974**

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November 13, 2001

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## **I. INTRODUCTION AND EXECUTIVE SUMMARY**

International Mold Steel, Inc. ("IMS"), located in Florence, Kentucky, is the sole distributor of a unique line of mold and die steels that are produced only in Japan. IMS sells, directly or indirectly, to some of the largest and most prominent manufacturers in the United States, including General Motors, Ford, Chrysler, Toyota, Honda, Boeing, General Electric, Dell Computer, Apple Computer, Parker Hannifin, Delco, Delphi, Titleist, Dana Corporation, and many others.

IMS seeks to exclude from the scope of any steel industry relief under Section 203 of the Trade Act of 1974 nine specific brands of mold and die steels that cannot be sourced in the United States. These nine steels have the following commercial names: NAK 55, NAK 80, PX5, Porcerax, DH2F, CX1, DC53, DH31-S, and NAK HH (there are no corresponding designations under AISI, ASTM, or other standardized designation). These are proprietary brands belonging to producers in Japan, and have demanding physical, mechanical, and chemical characteristics that cannot be duplicated or substituted using any mold or die steel manufactured in the United States. Because there is no competing product made in the United States, the steels that IMS imports cannot be said to be causing "serious injury" to domestic mold and die steel producers, and exclusion of them is warranted.

The nine mold and die steels described herein service a niche market within the larger U.S. mold and die steel market when the technical requirements and tolerances of stamped metal or rubber and plastic parts is extreme. For example, after the 1986 Challenger disaster, one of IMS's premium brands, NAK 55, was selected as the mold steel for the re-designed O-rings on the shuttle booster rockets. Another IMS product, Porcerax II, is a unique, porous mold steel that permits the escape of hot gas buildup directly through the mold die itself, allowing formation of many types of parts that were previously unattainable. As described below, each of these nine specifications has unique characteristics not found in any U.S.-produced mold and die steel. Customer certifications attesting to the uniqueness of these products, and the need for them in their operations, are attached as **Exhibit 10** to this letter.

In addition to the physical qualities and uses, the uniqueness of the mold and die steels imported by IMS is demonstrated by a number of additional factors. First, many of these products have only recently been developed and are subject to patent protection in the United States (or patent applications have been filed). U.S. mold and die steel producers (presuming they had the technical ability) would therefore be barred from engineering a copy of the products.

Second, U.S. customers are willing to pay a substantial premium to source these products. Quantity and value figures provided below for each brand show average unit values to be from approximately \$[ ] per metric ton for some to as high as \$[ ] per metric ton for others. AISI and other grade mold and die steels manufactured by domestic producers sell for significantly lower prices. A comparison of average unit values for domestic brands and premium IMS brands is included in **Exhibit 11** to this letter.

And finally, these products are not certifiable to standard mold and die steel specifications, such as AISI, which reflect the manufacturing capability of the U.S. mold and die steel industry. The physical, chemical, and mechanical properties of the nine steels listed below exceed in many respects the maximum parameters allowable under AISI grades.

Below we provide, on a product-specific basis, answers to the product, producer, and shipment information the TPSC requested in its Federal Register notice. Detailed physical descriptions of the products are also included in **Exhibits 1-9** of this letter. For the reasons stated as follows, we respectfully request that the President exclude these products from any remedial order issued under Section 203 of the 1974 Trade Act.

## **II. REQUESTS FOR EXCLUSION**

### **A. NAK 55**

#### **AISI or equivalent number and HTS number**

There is no designation under AISI or equivalent standard. HTS headings under which NAK 55 is imported are:

- ❑ 7226.91.5000 (plate, width less than 600 mm);
- ❑ 7225.40.3050 (plate, width 600 mm or more); and
- ❑ 7228.30.8050 (round bar).

#### **2. Description of the product**

NAK 55 is a plastic mold steel with many supplemental and unique characteristics that differentiate it from standard-grade plastic mold steels like AISI P20. These include greater hardness, uniform grain and hardness structure throughout, machining up to 50% faster, and ability to weld the steel perfectly to the “parent steel” on the finished mold product without leaving any lines or other flaws. Please see **Exhibit 1** for a detailed description of NAK 55.

Attached in **Exhibit 10** to this letter is an affidavit of Roland Krevitt of California-based Redwood Engineering Company. Mr. Krevitt notes that his company pays more for the NAK class of products because NAK steels “have properties and qualities that are superior to P-20 and other garden-variety tool steels produced in Asia and the US.” Further, Mr. Krevitt has specified his domestic mold makers to use NAK products, all of which have agreed are “far superior” to P-20. Additionally, an online article from the web site of Tooling Express, Inc., notes that with NAK 55, “{t}he price may be a bit higher, but we quickly make up for that additional cost by having the ability to finish molds earlier due to faster machining and less time spent on any unnecessary heat treating.” See **Exhibit 1**.

#### **3. Basis for requesting exclusion**

NAK 55, or a substitute product, is not made in the United States. See affidavits of Charles Brouse of Parkway Products and Lonnie Tustison of Tooling Express, Inc. (noting that they have been unable to source a domestically made mold steel capable of substituting for NAK 55); Krevitt affidavit (noting that only the NAK family of steels made by Daido in Japan are capable of meeting his molding needs); letter of Larry Taylor of Complete Surface Technologies, Inc., to President Bush, dated Nov. 7, 2001 (noting many types of mold steel sourced from IMS, including NAK 55 are “absolutely not available in any domestically manufactured steel”)

(emphasis in original) (attached as **Exhibit 10**). The uniqueness of NAK 55 is demonstrated by a price comparison with P-20 and RA-40 grade mold steels. Whereas P-20 steel costs on average \$1,875 per metric ton, NAK 55 costs \$[ ] per metric ton. See **Exhibit 11**. Customers would not pay the substantial premium for NAK 55 if lower-grade mold steels like P-20 and RA-40 were substitutable. NAK 55 until recently was also patented in the United States (U.S. Patent No. 3824096 (expired)). U.S. purchasers who are dependent upon our supply of NAK 55 include Parker Hannifin, Titleist, Acushnet, Greene Tweed, Ichokoh, and Freudenberg-NOK. As noted above, the Space Shuttle program relies upon NAK 55, which was selected as the mold steel for the re-designed O-rings for the booster rockets.

4. Producers of NAK 55 in the United States and foreign countries

United States producers: None

Foreign country producers: Daido Steel Company  
7-13 1-Chome, Nishi-Shinbashi  
Minotu-ku  
Tokyo, Japan 105-8403

5. Total U.S. consumption of NAK 55 from 1996 to 2000 and projection of consumption from 2001 to 2005

	1996	1997	1998	1999	2000	2001*	2002*	2003*	2004*	2005*
Quantity (MT)	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
Value (\$1,000)	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]

\* Basis for projections for 2001-2005: Because NAK 55 has a very specialized, high-end use (for optical-quality finishing) the usage during the next years is projected to be relatively constant and in line with previous year usage.

6. Total U.S. production of NAK 55 from 1996 to 2000 and projection of production from 2001 to 2005

None.

7. Identity of any U.S.-produced substitute for NAK 55, production of such substitute, and names of any producers of such substitute

There is no substitute for NAK 55 produced anywhere in the United States.

**B. NAK 80**

1 AISI or equivalent number and HTS number

There is no designation under AISI or equivalent standard for NAK 80. HTS headings under which NAK 80 is imported are:

- ❑ 7226.91.5000 (plate, width less than 600 mm);
- ❑ 7225.40.3050 (plate, width 600 mm or more); and
- ❑ 7228.30.8050 (round bar).

2. Description of the product

NAK 80 is also a plastic mold steel used for very demanding niche applications, such as clear lens molds and extremely critical diamond finish applications. As noted above, Roland Krevitt of Redwood Engineering Company attests to the fact that the NAK family of products (including NAK 80) has properties far superior to the closest domestically produced alternative, P-20 steel, and that Mr. Krevitt's mold makes who use NAK products also find them "far superior" to any other product. Krevitt affidavit (attached at **Exhibit 10**). **Exhibit 2** contains a detailed description of NAK 80's physical, mechanical, and chemical properties, as well as a printout of a page from Mold Maker Magazine noting that NAK 80 machines 15 to 20 percent faster than P-20 steels and can be polished to the highest optical quality finish possible.

3. Basis for requesting exclusion

NAK 80, or a substitute product, is not made in the United States. See Krevitt affidavit (noting he is unable to source a competitive product from U.S. producers); letter of Larry Taylor of Complete Surface Technologies, Inc., to President Bush, dated Nov. 7, 2001 (noting many types of mold steel sourced from IMS, including NAK 80 are "absolutely not available in any domestically manufactured steel") (emphasis in original) (attached at **Exhibit 10**). The uniqueness of NAK 80 is demonstrated by a price comparison with P-20 and RA-40 grade mold steels. Whereas P-20 steel costs on average \$1,875 per metric ton, NAK 80 costs \$[ ] per metric ton. See **Exhibit 11**. Customers would not pay the substantial premium for NAK 80 if lower-grade mold steel like P-20 were substitutable. Until recently NAK 80, along with NAK 55, was under a patent in the United States (U.S. Patent No. 3824096 (expired)).

4. Producers of NAK 80 in the United States and foreign countries

United States producers: None

Foreign country producers: Daido Steel Company  
7-13 1-Chome, Nishi-Shinbashi  
Minotu-ku  
Tokyo, Japan 105-8403

5. Total U.S. consumption of NAK 80 from 1996 to 2000 and projection of consumption from 2001 to 2005

	1996	1997	1998	1999	2000	2001*	2002*	2003*	2004*	2005*
Quantity (MT)	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
Value (\$1,000)	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]



\* Basis for projections for 2001-2005: Because NAK 80 has a very specialized, high-end use (for optical-quality finishing) the usage during the next years is projected to be relatively constant and in line with previous year usage.

6. Total U.S. production of NAK 80 from 1996 to 2000 and projection of production from 2001 to 2005

None.

7. Identity of any U.S.-produced substitute for NAK 80, production of such substitute, and names of any producers of such substitute

There is no substitute for NAK 80 produced anywhere in the United States.

C. PX5

1. AISI or equivalent number and HTS number

There is no designation under AISI or equivalent standard for PX5. HTS headings under which PX5 is imported are:

- ☐ 7226.91.5000 (plate, width less than 600 mm);
- ☐ 7225.40.3050 (plate, width 600 mm or more); and
- ☐ 7228.30.8050 (round bar).

2. Description of the product

PX5 is a very high-quality steel used in all types of plastic molding and design, and is superior to AISI grade P20-type steels in terms of machining, stability, and welding. Roland Krevitt of Redwood Engineering Company, in addition to his comments on the NAK family of products, also attests to the superior quality of IMS's PX5 product. Mr. Krevitt says that PX5 has qualities he cannot find in a domestically produced mold steel. Mr. Krevitt's mold makers consistently support his views of this product. *See* affidavit of Roland Krevitt (attached as **Exhibit 10**). Please see **Exhibit 3** for a detailed description of the physical, mechanical, and chemical characteristics of PX5.

3. Basis for requesting exclusion

PX5, or a substitute product, is not made in the United States. *See* affidavit of Bruce Hackett of Estee Mold and Die (attached as **Exhibit 10**), attesting to fact that Estee uses PX5 on half of the molds it builds for the rubber and plastics industries, and that no substitute for PX5 is available in the United States. *See also* affidavits of Lonnie Tustison of Tooling Express, Inc., Charles Brouse of Parkway Products, and Roland Krevitt of Redwood Engineering Company (noting no U.S. production of a product comparable to PX5); letter of Larry Taylor of Complete Surface Technologies, Inc., to President Bush, dated Nov. 7, 2001 (noting many types of mold steel sourced from IMS, including PX5 are "absolutely not available in *any* domestically manufactured steel") (emphasis in original) (attached at **Exhibit 10**). PX5's uniqueness,

compared to U.S.-produced grade P-20 steels, is demonstrated by an average unit sales value comparison. Whereas P-20 sells in the United States for \$1,875 per metric ton, IMS sells PX5 for \$[ ], almost [ ]. See **Exhibit 11**. Customers would not be willing to pay this substantial premium for IMS's PX5 mold steel if P-20 steel made in the United States were substitutable. Finally, PX5 is subject to a United States patent that is currently under renewal (U.S. Patent No. 5139737).

4. Producers of PX5 in the United States and foreign countries

United States producers: None

Foreign country producers: Daido Steel Company  
7-13 1-Chome, Nishi-Shinbashi  
Minotu-ku  
Tokyo, Japan 105-8403

5. Total U.S. consumption of PX5 from 1996 to 2000 and projection of consumption from 2001 to 2005

	1996	1997	1998	1999	2000	2001*	2002*	2003*	2004*	2005*
Quantity (MT)	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
Value (\$1,000)	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]

\* Basis for projections for 2001-2005: IMS projects that sales volumes of PX5 will constantly increase in the future, and bases its projections upon sales during 1996-2000.

6. Total U.S. production of PX5 from 1996 to 2000 and projection of production from 2001 to 2005

None.

Identity of any U.S.-produced substitute for PX5, production of such substitute, and names of any producers of such substitute

There is no substitute for PX5 produced anywhere in the United States.

**D. Porcerax II**

1. AISI or equivalent number and HTS number

There is no designation under AISI or equivalent standard for Porcerax II. The HTS headings under which Porcerax II is imported is:

- ☐ 7222.19.0050 (stainless steel bar).

2. Description of the product

Porcerax II is a unique sintered and porous metal used for molding plastics that employs a system of interconnected, microscopic pores allowing for the release of gas buildup during the molding process. By venting heated gas, Porcerax II prevents a burning condition caused by the flow of molten resin in a cavity pocket, significantly reducing required injection pressure, the time needed to form each mold, the level of gloss on the formed object, and scrap and reject rates. Porcerax II is inserted into critical areas of molds constructed from any type of mold steel, allowing the formation of parts that were previously impossible to produce. Porcerax II is critical in the molding of very thin-walled plastic products, such as automotive speaker grills and certain medical instruments. Please see **Exhibit 4** for a detailed description of the physical and chemical characteristics of Porcerax II.

3. Basis for requesting exclusion

Porcerax II, or a substitute product, is not made in the United States. *See* Affidavit of Charles Brouse of Parkway Products (noting no U.S. production of a product comparable to Porcerax II); letter of Larry Taylor to President Bush, dated Nov. 7, 2001 (noting many types of mold steel sourced from IMS, including Porcerax II, are “absolutely not available in *any* domestically manufactured steel”) (emphasis in original) (attached at **Exhibit 10**). The uniqueness of Porcerax II is demonstrated by its extraordinary cost: fully \$[ ] per metric ton on average, compared to domestically made P-20 and RA-40 plastic mold steels (\$1,875 per metric ton and \$7,500 per metric ton, respectively) (*see* **Exhibit 11**). No U.S. consumer would be willing to pay the enormous premium for Porcerax II if lower-priced U.S.-made mold steels were available.

Developed by Sinto Corporation in Japan, Porcerax II is subject to two patents in the United States: U.S. Patent No. 5152828 (for production method) and U.S. Patent No. 5841042 (for die cast application). Major users of Porcerax II are automotive manufacturers such as Ford, General Motors, Toyota, Honda, Nissan, Pixley Richards, Inc., and The Tech Group’s facility in Phoenix, Arizona, manufacturer of highly critical medical instruments.

4. Producers of Porcerax II in the United States and foreign countries

United States producers:      None

Foreign country producers:    Sintokogio Ltd.  
   1, Honohara, 3-chome  
   Toyokawa, Aichi  
   Japan 442

5. Total U.S. consumption of Porcerax II from 1996 to 2000 and projection of consumption from 2001 to 2005

	1996	1997	1998	1999	2000	2001*	2002*	2003*	2004*	2005*
Quantity (MT)	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
Value (\$1,000)	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]

\* Basis for projections for 2001-2005: Porcerax II is used in very small amounts at a time;. However, IMS projects that sales volumes will constantly increase in the future.

6. Total U.S. production of Porcerax II from 1996 to 2000 and projection of production from 2001 to 2005

None.

7. Identity of any U.S.-produced substitute for Porcerax II, production of such substitute, and names of any producers of such substitute

There is no substitute for Porcerax II produced anywhere in the United States.

E. DH2F

AISI or equivalent number and HTS number

There is no designation under AISI or equivalent standard for DH2F. The HTS headings under which DH2F is imported is:

- ☐ 7225.40.1090 (tool steel plate, width 600 mm or more).

2. Description of the product

DH2F is a steel designed for molding of plastic parts. DH2F was developed by Daido Corporation as an exceptionally tough mold and die steel, yet one that is stable and easy to machine. Please see **Exhibit 5** for a detailed description of the physical and chemical characteristics of DH2F.

3. Basis for requesting exclusion

DH2F, or a substitute product, is not made in the United States. See Affidavit of Charles Brouse of Parkway Products, noting no U.S. production of a product comparable to Porcerax II (attached as **Exhibit 10**).

4. Producers of DH2F in the United States and foreign countries

United States producers: None

Foreign country producers: Daido Steel Company

7-13 1-Chome, Nishi-Shinbashi  
Minotu-ku  
Tokyo, Japan 105-8403

5. Total U.S. consumption of DH2F from 1996 to 2000 and projection of consumption from 2001 to 2005

	1996	1997	1998	1999	2000	2001*	2002*	2003*	2004*	2005*
Quantity (MT)	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
Value (\$1,000)	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]

\* Basis for projections for 2001-2005: IMS projects constant growth of the use of DH2F in the future.

6. Total U.S. production of DH2F from 1996 to 2000 and projection of production from 2001 to 2005

None.

7. Identity of any U.S.-produced substitute for DH2F, production of such substitute, and names of any producers of such substitute

There is no substitute for DH2F produced anywhere in the United States.

F. CX1

1. AISI or equivalent number and HTS number

There is no designation under AISI or equivalent standard for CX1. HTS headings under which CX1 is imported are:

- ☐ 7226.91.5000 (plate, width less than 600 mm);
- ☐ 7225.40.3050 (plate, width 600 mm or more); and
- ☐ 7228.30.8050 (round bar).

2. Description of the product

CX1 is a proprietary cold work die steel that is the first to be supplied pre-heat treated to hardness of HRC 50, and can also be machined at this hardness. No die steel, including lower-grade D2 products manufactured domestically, can be machined at this very high level of hardness.. Please see **Exhibit 6** for a detailed description of the physical and chemical characteristics of CX1.

3. Basis for requesting exclusion

CX1, or a substitute product, is not available from any producers in the United States. Japan-based Daido Steel developed CX1 and has applied for a patent in the United States (U.S.

patent application no. 09-563423). The price premium separating CX1 from U.S.-made cold-work die steels is further demonstration of its uniqueness in the domestic market. IMS will be selling CX1 for approximately \$[ ] per metric ton, compared to \$4,408 per metric ton, the average price for domestically produced grade D-2 cold-work die steel. If D-2 were substitutable for CX1, this pricing premium would not exist. IMS is in the process of introducing CX1 for sale for the first time in the United States.

4. Producers of CX1 in the United States and foreign countries

United States producers: None

Foreign country producers: Daido Steel Company  
7-13 1-Chome, Nishi-Shinbashi  
Minotu-ku  
Tokyo, Japan 105-8403

5. Total U.S. consumption of CX1 from 1996 to 2000 and projection of consumption from 2001 to 2005

	1996	1997	1998	1999	2000	2001*	2002*	2003*	2004*	2005*
Quantity (MT)	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
Value (\$1,000)	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]

\* Basis for projections for 2001-2005: IMS is in the process of commercially introducing CX1 to the U.S. market. As there is no U.S. source for die steel approaching CX1's hardness (HRC 50), IMS expects a constantly increasing market for this product in the future.

6. Total U.S. production of CX1 from 1996 to 2000 and projection of production from 2001 to 2005

None.

7. Identity of any U.S.-produced substitute for CX1, production of such substitute, and names of any producers of such substitute

There is no substitute for CX1 produced anywhere in the United States.

G. DC53

1. AISI or equivalent number and HTS number

There is no designation under AISI or equivalent standard for DC53. The HTS heading under which DC53 is imported is:

- ☐ 7225.40.1090 (tool steel plate, width 600 mm or more).

2 Description of the product

DC53 is a proprietary cold work die steel developed and patented by Daido Steel in Japan (Japan patent no. 2631262) and designed to far exceed the performance of lower-grade die steels certified to AISI D2 specification. As the materials included in **Exhibit 7** show, stamping dies made from DC53 have up to a 25% higher bending strength than dies made from D2, making DC53 ideal for forming plates with very high tensile strength and other heavy-thickness steel plates, as well as dies for cold-forging. DC53 dies are also twice as tough as D2 dies according to Charpy impact values (*i.e.*, a test for the steel's ability to withstand cracking). Please see **Exhibit 7** for a detailed description of the physical and chemical characteristics of DC53.

3 Basis for requesting exclusion

DC53, or a substitute product, is not available from any producers in the United States. See Affidavit of Jeff Hayasaka of OSG Tap & Die Corporation (noting that DC53 cannot be replaced with any product in the market); letter of Larry Taylor of Complete Surface Technologies, Inc., to President Bush, dated Nov. 7, 2001 (noting many types of mold steel sourced from IMS, including DC53, are "absolutely not available in *any* domestically manufactured steel") (emphasis in original) (attached as **Exhibit 10**). The price premium customers are willing to pay is further demonstration of DC53's uniqueness compared to domestically produced cold-work die steels. IMS sells DC53 for approximately \$[ ] per metric ton, compared to \$4,408 per metric ton for domestically produced grade D-2 steel. If D-2 were substitutable for DC53, this pricing premium would not exist. Manufacturers in the United States that are dependent upon supplies of DC53 for their operations include Dana Corporation, Toyota, Aisin Automotive, OSG Tap & Die Corporation, and K.I. USA.

4 Producers of DC53 in the United States and foreign countries

United States producers: None

Foreign country producers: Daido Steel Company  
7-13 1-Chome, Nishi-Shinbashi  
Minotoku  
Tokyo, Japan 105-8403

5 Total U.S. consumption of DC53 from 1996 to 2000 and projection of consumption from 2001 to 2005

	1996	1997	1998	1999	2000	2001*	2002*	2003*	2004*	2005*
Quantity (MT)	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
Value (\$1,000)	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]

\* Basis for projections for 2001-2005: Based upon current customers' acceptance of the product, IMS expects a constantly increasing market for DC53 in the future.

6. Total U.S. production of DC53 from 1996 to 2000 and projection of production from 2001 to 2005

None.

7. Identity of any U.S.-produced substitute for DC53, production of such substitute, and names of any producers of such substitute

There is no substitute for DC53 produced anywhere in the United States.

**H. DH31-S**

- 1 AISI or equivalent number and HTS number

There is no designation under AISI or equivalent standard for DH31-S. The HTS heading under which DH31-S is imported is:

- ☐ 7225.40.1090 (tool steel plate, width 600 mm or more).

2. Description of the product

DH31-S is a hot-working die cast steel with an excellent balance of both strength and toughness. The product has a very high resistance to softening at high temperatures, and is ideal to use in hot-forging and hot-pressing dies, and in very large dies where deformation could result from prolonged usage. DH31's toughness in this respect is 60% higher than die steels certified to AISI specification H13. Please see **Exhibit 8** for a detailed description of the physical and chemical characteristics of DH31-S.

3. Basis for requesting exclusion

DH31-S, or a substitute product, is not available from any producers in the United States. Daido has applied for a Japanese patent for DH31-S (Japan patent application no. 11-144737), and IMS will begin commercial marketing next year. The uniqueness of DH31-S is further demonstrated by a price comparison with U.S. made grade H-13 steel. Whereas IMS will market DH31-S for approximately \$[ ] per metric ton, H-13 steels sell for only \$5,510 per metric ton on average. If the two products were substitutable, there would be no substantial price discrepancy. Finally, Daido expects to apply for a U.S. patent in the near future.

4. Producers of DH31-S in the United States and foreign countries

United States producers: None

Foreign country producers: Daido Steel Company  
7-13 1-Chome, Nishi-Shinbashi  
Minotoku  
Tokyo, Japan 105-8403



Total U.S. consumption of DH31-S from 1996 to 2000 and projection of consumption from 2001 to 2005

	1996	1997	1998	1999	2000	2001*	2002*	2003*	2004*	2005*
Quantity (MT)	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
Value (\$1,000)	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]

\* Basis for projections for 2001-2005: IMS is in the process of commercially introducing DH31-S to the U.S. market. As there is no U.S. source for die steel approaching DH31-S's quality, IMS expects a constantly increasing market in the future.

6. Total U.S. production of DH31-S from 1996 to 2000 and projection of production from 2001 to 2005

None.

7. Identity of any U.S.-produced substitute for DH31-S, production of such substitute, and names of any producers of such substitute

There is no substitute for DH31-S produced anywhere in the United States.

**I. Super NAK ("NAK HH")**

1. AISI or equivalent number and HTS number

There is no designation under AISI or equivalent standard for NAK HH. The HTS heading under which NAK HH is imported is:

- ☐ 7226.91.5000 (plate, width less than 600 mm);
- ☐ 7225.40.3050 (plate, width 600 mm or more); and
- ☐ 7228.30.8050 (round bar).

2. Description of the product

NAK HH is a plastic mold steel that provides a unique combination of high hardness and ability to machine-work the steel. No steel of similar chemistry is available from any U.S. producers. Please see **Exhibit 9** for a detailed description of the physical and chemical characteristics of NAK HH.

3. Basis for requesting exclusion

NAK HH, or a substitute product, is not available from any producers in the United States. NAK HH was recently developed and patented by Daido Steel in Japan as a proprietary plastic mold steel. Daido has patented NAK HH in both the United States and Japan (U.S. Patent No. 5639421). IMS plans to begin commercial introduction of NAK HH to the U.S. market next year. The price at which IMS plans to sell NAK HH is a demonstration of its uniqueness compared to

other mold-type steels produced and sold in the United States. NAK HH sells for approximately \$[ ] per metric ton, versus \$1,875 per ton for domestically produced grade P-20 mold steel. If NAK HH were comparable to this U.S.-produced grade, there would be no price premium.

4. Producers of NAK HH in the United States and foreign countries

United States producers: None

Foreign country producers: Daido Steel Company  
7-13 1-Chome, Nishi-Shinbashi  
Minotu-ku  
Tokyo, Japan 105-8403

5. Total U.S. consumption of NAK HH from 1996 to 2000 and projection of consumption from 2001 to 2005

	1996	1997	1998	1999	2000	2001*	2002*	2003*	2004*	2005*
Quantity (MT)	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
Value (\$1,000)	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]

\* Basis for projections for 2001-2005: IMS is in the process of commercially introducing NAK HH to the U.S. market. As there is no U.S. source for die steel approaching NAK HH's quality, IMS expects a constantly increasing market for this product in the future.

6. Total U.S. production of NAK HH from 1996 to 2000 and projection of production from 2001 to 2005

None.

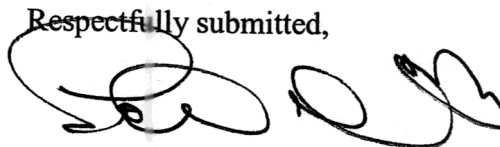
7. Identity of any U.S.-produced substitute for NAK HH, production of such substitute, and names of any producers of such substitute

There is no substitute for NAK HH produced anywhere in the United States.

### III. CONCLUSION

For the foregoing reasons, we respectfully request that the nine mold and die steels imported by IMS, as described above, be excluded from the scope of any relief for the domestic steel industry ordered by the President under Section 203 of the Trade Act of 1974. As these unique steel bands are not produced anywhere in the United States, they cannot be said to cause "serious injury" to the domestic steel producers.

Respectfully submitted,

Two handwritten signatures in black ink. The first signature is a large, stylized loop. The second signature is a smaller, more compact loop.

Matthew J. Clark  
Steven F. Hill

Arent Fox Kintner Plotkin & Kahn, PLLC  
1050 Connecticut Avenue, NW  
Washington, D.C. 20036  
(202) 857-6000

Counsel to International Mold Steel, Inc.

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**Exhibit 1—NAK 55**

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## NAK 55 – No AISI designation

First produced and patented by Daido Steel in Japan in 1975. No grade is comparable in quality from producers in the U.S. The few attempts to produce NAK 55-type steel have failed because of quality and consistency issues.

After the Challenger disaster, NAK 55 was chosen as the mold steel for the re-designed O-Rings for shuttle boosters.

### Chemistry

### Production Method

Double melted: electric furnace then vacuum arc re-melt furnace. Hot rolled or forged to shape. Age hardened to HRC 40.

### Mechanical Properties as Supplied

HRC 40	Yield (.2% offset, 41 HRC)	146,500 psi
Tensile 182,000 psi	Elongation in 2" (longitudinal)	15.6%
Reduction 39.8 %	Modulus of Elasticity (room temp.)	30.0 x 10 <sup>6</sup> psi

#### Charpy V-Notch Impact Strength (toughness):

Longitudinal	7.2 ft/lb.
Transverse	5.6 ft/lb.
Hardness	40 HRC

### Physical Properties

Coefficient of Thermal Expansion (x 10 <sup>-6</sup> in/in/F°)		Coefficient of Thermal Conductivity (BTU/ft• hr• F°)	
68 F° to 212 F°	6.3	At 200 F°	23.9
68 F° to 392 F°	7.0	At 400 F°	24.4
68 F° to 572 F°	7.5		

#### Magnetic Properties

Maximum Magnetic Permeability	380
Saturated Magnetism (Gauss)	16,350
Residual Magnetism (Gauss)	8,500

## Coercive Force (Oersted)

14.0

Unique Characteristics

- NAK 55 supplies the best machined surface finish of any steel
- Excellent machined finish allows elimination of the need to polish for many applications
- Vacuum-Arc Remelt manufacturing process
- 40 HRC hardness
- Uniform hardness throughout, even in heavy sections
- When welded, NAK leaves no witness lines after re-aging
- Uniform grain structure with no pinholes, inclusions or hard spots
- Machines up to 50% faster than 30 HRC P20 mold steels
- Never needs stress relieving, even after heavy machining.

Applications

- |                                   |                       |
|-----------------------------------|-----------------------|
| • Rubber Molds                    | O-Ring Molds          |
| • Splice Molds                    | Seal Molds            |
| • Vibration Control Part Molds    | Plastic Molds         |
| • Pultrusion Dies                 | Fixtures              |
| • Computers                       | Composite Molds       |
| • Automobile Steering Wheel Molds | Electrical Connectors |
| • Toys                            | Gauges                |
| • Special Machine Applications    |                       |

Major Users Are

Parker Hannifin  
Greene Tweed

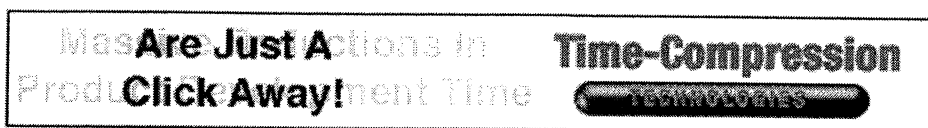
Acushnet  
Ichikoh

Titleist  
Frueденberg-NOK

Available Sizes

Hot Rolled Rounds:		to	3.75"	Dia.
Forged Rounds:	from 4"	to	18"	Dia.

Hot Rolled Plate:	from .876"	thk x 24" wide	to	3.75" thk x 24" wide
Forged Plate:	from .4"	thk x 30" wide	to	12" thk x 40" wide

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9 November 2001

## Featured Products

International Mold Steel, Inc.

### NAK 55 Steel

Fast machining, invisible welds, 40 HRC, mirror finish, stability. It machines up to 50% faster than P-20 yet it has a hardness of 40 HRC. NAK 55 has superior surface following machining, which allows faster, better polishing. It is dimensionally stable even after heavy machining and requires no stress relieving.

Design changes and mistakes are easily corrected without any evidence of welding on the finished product even on highly polished or textured surfaces. NAK 55 is ideal for EDMing. It also can be ion nitride to 60 HRC.

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Using NAK 55 standard mold bases allows moldmakers to focus on crucial core and cavity work. Click here for the PDF version (773k PDF)

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#### Case Study

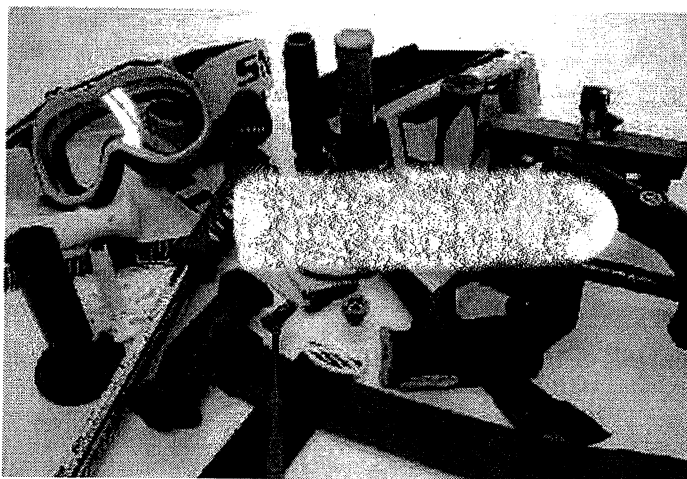
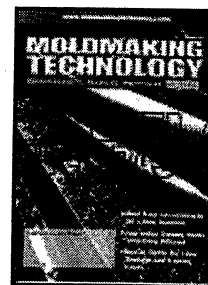
### Pre-hardened Tool Steel Saves Time and Money

Using NAK 55 standard mold bases allows moldmakers to focus on crucial core and cavity work.

Sherry L. Baranek

When Tooling Express, Inc. (TEI) — a Bellevue, ID-based mold shop that specializes in sporting good molds — branched into the molding part of the business to further define its niche and improve its moldmaking process, it soon faced the challenge of finding a quality tool steel to work with that also would shorten deliveries by reducing machining times and post processes such as heat treating.

Located right outside of the ski resort area of Sun Valley, ID, this father/son moldmaking/molding shop employs four full-time toolmakers/mold designers. The shop is literally 15 minutes from the ski slopes, and summertime fly-fishing is a 10-minute walk from the shop's back door. It seems only natural that the company soon found its niche catering to the wide world of sports. With a 10,000-square-foot facility containing six







*International Mold Steel's off-the-shelf NAK 55 MUD style bases allowed Tooling Express to get it's customer's products ready on time.*

injection molding machines ranging from 55 to 165 tons, TEI also has second operation facilities such as pad printing, ultrasonic welding, and minor assembly and packaging of its customer's products.

### **The Overmolding Challenge**

According to Vice President Evan Downard, one of the company's earliest challenges involved building a mold for over molded ski pole grips. "It had only been done once before and our new customer wanted to get very aggressive with the shut-off shapes that would show the secondary color on the grip," Downard explains. "We quickly realized that the only way to ensure success with the project was to also control the final injection molding process. So, eight months into our endeavor as a moldmaking shop, we also found ourselves as injection molders. Our huge success with this particular over mold job quickly lead to other jobs and helped us realize that this is our niche in the industry."

The object of overmolding — or insert molding — is to place either a metal or plastic item into a mold and close on it. "This is something that most injection molders try to avoid," Downard explains. "But here we are in our own private Idaho, doing it all day long on purpose."

"A big problem with insert molding is the fact that you are actually closing the mold on pre-molded parts or some other insert material," Downard continues. "In the past, we have relied heavily on heat treated tool steels to take on the task of pinching off on insert material and still leave shut-off surfaces intact. Taking the problem one step further, there is often a need to do additional machining on mold surfaces to fine-tune the pinch off areas."

### **Standard Mold Bases/Inserts Speed Delivery**

Downard found the solution he was seeking at International Mold Steel, a Florence, KY-based supplier of pre hardened mold steels and a new line of MUD-style mold inserts. The company's off-the-shelf NAK 55 MUD style bases were the best fit for TEI's needs. "Since a large portion of our molds are built in this style base, and the fact that we can more efficiently cut NAK 55 over the other available pre-hardened mold bases, this is what we were looking for," Downard comments. "The price may be a bit higher, but we quickly make up for that additional cost by having the ability to finish molds earlier due to faster machining and less time spent on any unnecessary heat treating. In addition, we don't need to post-grind the inserts."

Plus, the quick-change inserts load in and out of a master frame that can be reused over and over again, eliminating the need for each mold to have its own "A" support plate and "B" side ejection box or U-frame. "This obviously offers some cost savings due to fewer materials being needed, but more importantly, it allows the moldmaker to focus on the more highly detailed core and cavity work," Downard explains.

The greatest challenge of this type of work, he continues, is that most often there is no real life part geometry to work from. A customer's only concern is that it works and achieves the desired look when assembled. When components for the final assembly are being made all around the world with no real hard numbers to call law, quite often final "tweaking" is necessary. For this reason, weldability of the mold insert material is crucial, and Downard points out that it can be welded without any evidence of the weld

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on the part.

"In our latest endeavor of overmolding plastic attachment points to the ends of goggle straps, the NAK 55 mold bases have really shined," Downard adds. "Due to the perfect timing on delivery of the mold bases and the ability to machine faster with minimal polishing, we were able to get our customer's new concept products online in time for them to take actual production parts with them to a recent trade show."

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*For more information contact Paul Britton of International Mold Steel (Florence, KY) at (859) 342-6000 or visit its website at [www.imsteel.com](http://www.imsteel.com).*

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